

CLAIMS

- 5 1. A rolling bearing in which at least one of an inner ring, an outer ring and a rolling element is formed of a steel material containing alloy ingredients each within a range of C: 0.8 to 1.20% by weight, Si: 0.60% by weight or less, Mn: 0.25% by weight or less, Cr: 1.00 to 1.50% by weight and Mo: 0.60 to 1.50% by weight, then applied with hardening/tempering, the amount of residual austenite is 0% by volume and a surface hardness is HRC of 62 or more.
- 10 2. A rolling bearing in which at least one of an inner ring, an outer ring is formed of a steel material containing alloy ingredients each within a range of C: 0.8 to 1.20% by weight, Si: 0.60% by weight or less, Mn: 0.25% by weight or less, Cr: 1.00 to 1.50% by weight and Mo: 0.60 to 1.50% by weight, then applied with hardening/tempering, the amount of residual austenite is 0% by volume and a surface hardness is HRC of 62 or more, and in which the rolling element is formed
- 15 of a steel material containing alloy ingredients each within a range of C: 0.3 to 0.6% by weight, Si: 0.3 to 1.5% by weight, Mn: 0.3 to 1.7% by weight, Cr: 0.5 to 2.5% by weight and Mo: 0.6 to 3.0% by weight, with the O content being of 9 ppm or less, applied with carbo-nitridation and then applied
- 20 with hardening/tempering, the amount of residual austenite is
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0% by volume and a surface hardness is HRC of 62 or more.

3. A rolling bearing in which at least one of an inner ring, an outer ring is formed of a steel material containing alloy ingredients each within a range of C: 0.8 - 1.20% by weight, Si: 0.60% by weight or less, Mn: 0.25% by weight or less, Cr: 1.00 - 1.50% by weight and Mo: 0.60 - 1.50% by weight, then applied with hardening/tempering, the amount of residual austenite is 0% by volume and a surface hardness is HRC of 62 or more, and in which the rolling element is formed of a martensitic stainless steel, applied with hardening/tempering and then applied with nitridation to form a nitride layer at a thickness of 3 μ m or more on the surface and then applied with finishing to a surface roughness of 0.1 μ m Ra or less.

4. A rolling bearing in which at least one of an inner ring and an outer ring is formed of a steel material containing alloy ingredients each within a range of C: 0.8 - 1.20% by weight, Si: 0.60% by weight or less, Mn: 0.25% by weight or less, Cr: 1.00 - 1.50% by weight and Mo: 0.60 - 1.50% by weight, then applied with hardening/tempering, the amount of residual austenite is 0% by volume and a surface hardness is HRC of 62 or more, and in which a rolling element is formed of ceramics.

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